

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF GEORGIA
SAVANNAH DIVISION**

BASF CORPORATION,

Plaintiff,

v.

SNF HOLDING COMPANY; FLOPAM INC.;
CHEMTALL INC.; SNF SAS; and SNF
(CHINA) FLOCCULANT CO., LTD,

Defendants.

CIVIL ACTION NO.: 4:17-cv-251

(UNDER SEAL)

SEALED MOTION FOR SUMMARY JUDGMENT ORDER

This matter comes before the Court upon Defendants’ SNF Holding Company, Flopam Inc., Chemtall Inc., SNF SAS, and SNF (China) Flocculant Co., Ltd.’s Motion for Summary Judgment of Invalidity of U.S. Patent No. 5,633,329, (doc. 207), and Plaintiff BASF Corporation’s Motion for Partial Summary Judgment of Validity of the same patent, (doc. 209). The Motions were briefed, (docs. 239, 242, 262, 268, 330, 332), and the issues presented within each Motion were discussed at length in a hearing before the Court, (docs. 324, 329). As such, they are ripe for review. For the reasons set forth below, the Court **GRANTS** Defendants’ Motion for Summary Judgment and **DISMISSES as moot** Plaintiff’s Motion for Partial Summary Judgment.¹ The Court **ORDERS** that the Claims 1–7 of U.S. Patent No. 5,633,329 are invalid. The Court **DIRECTS** the Clerk of Court to file this Order **UNDER SEAL**, and to enter judgment in favor of Defendants and to **CLOSE** this case.

¹ Accordingly, the Court also **DISMISSES as moot** Defendants’ and Plaintiff’s respective Motions for a Hearing regarding summary judgement. (Docs. 308, 310.)

BACKGROUND

Plaintiff BASF Corporation (“BASF” or “Plaintiff”) brings this action against Defendants SNF Holding Company (“SNF” or “Defendant SNF”), Flopam Inc., Chemtall Inc. (“Chemtall”), SNF SAS, and SNF (China) Flocculant Co., Ltd., for alleged infringement of its patent: U.S. Patent No. 5,633,329 (“the ‘329 patent”). (Doc. 1.) Plaintiff BASF seeks injunctive relief, damages, costs, and attorneys’ fees. (*Id.* at pp. 7–8.) Defendants, meanwhile, seek dismissal, as well as attorneys’ fees and other relief as the Court deems appropriate. (Doc. 14, pp. 6–7.) While the suit began in the Southern District of Texas, it was transferred to the Southern District of Georgia in late 2017. (Doc. 288.) This Court’s jurisdiction is uncontested, and remains proper because Defendant Chemtall, which is incorporated in the state of Georgia, has its principal place of business in Riceboro, Georgia, within the Southern District of Georgia. *See* 28 U.S.C. § 1400(b) (“Any civil action for patent infringement may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business.”); (*see also* Docs. 37, 165, 169, 288). At issue in this case is the validity of a superabsorbent polymer patent.

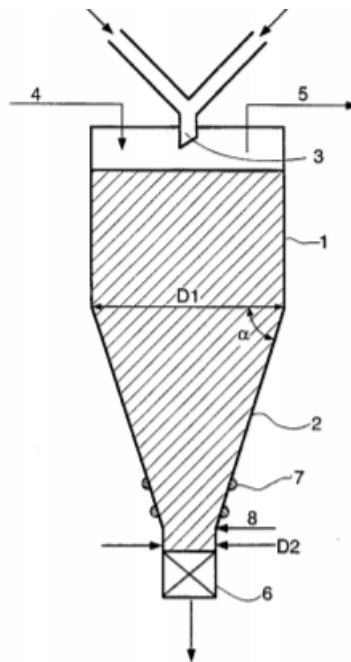
I. Superabsorbent Polymers

Superabsorbent polymers are materials that absorb high volumes of fluid and retain that fluid even under pressure. (Doc. 207-19, p. 10.) While their principal usage is in disposable baby diapers, superabsorbent polymers are also commonly used in water treatment, mining, agriculture, and, increasingly, in the oil and gas industry. (Doc. 1, p. 2.) Due to increased demand in these industries, technology is needed to more efficiently manufacture polyacrylamides (a subset of polymers). (*Id.*) Both Plaintiff BASF Corporation and Defendant SNF work in the polyacrylamide market. (*Id.* at pp. 2–3.)

Prior to the development of the process described in the '329 patent, there was some difficulty in manufacturing polyacrylamides. (Doc. 1-1, p. 4; see also doc. 329, pp. 32–33, 42, 45–46.) Because of their gelatinous nature, such superabsorbent polymers tended to stick to the sides of the reactors in which they were manufactured. (Id.) Discharging the entire substance, therefore, required substantial effort.

II. The '329 Patent

The '329 patent, to which BASF is the assignee of rights, was an attempt to solve just that dilemma. (Doc. 1-1, pp. 2, 4.) The application for this particular patent was filed by five German resident individuals ("Hähnle et al") on January 31, 1995, (doc. 207-1, p. 11), and it issued on May 27, 1997, (doc. 1-1, p. 2). The '329 patent involves the use of a tubular reactor with a conical taper; inert gas is injected into the reactor to discharge the gelatinous mixture created therein. (Id.) An image of the conical reactor as included in the patent application is provided below:



(Id. at p. 3.) The patent application listed seven claims. (Id. at p. 10.) For now, suffice it to say that a number of details about the conical reactor are particularly noteworthy: first, the ratio of the diameter of the reactor being from “2:1 to 25:1”; second, that the angle between the beginning of the conical taper and the inner cone wall being “ $>45^{\circ}$ and $<90^{\circ}$ ”; and third, that the process involves the “discharge of the gelatinous reaction mixture from the reactor by injection of an inert gas.” (Id. at pp. 2, 10.)

III. The Sanyo SANWET® Process

But another polymerization process existed at the time the ‘329 patent issued: the Sanyo SANWET® Process. That, too, is a process for manufacturing super-absorbent polymers. (Doc. 201-15, p. 2.) The process shares several characteristics with the process of the ‘329 patent: it involves “co-polymerizing water-soluble, monoethylenically unsaturated monomers (namely, acrylic acid monomers) in a tubular reactor” with a conical taper at one end, having an approximately 60 degree angle. (Doc. 207-1, p. 8.) This Sanyo SANWET® Process results in creating a gelatinous reaction mixture, which was removed “by injection of an inert gas.” (Id.)

The Sanyo SANWET® Process was licensed by Sanyo to Celanese on July 1, 1985. (Doc. 207-15, p. 2.) Celanese advertised receiving the exclusive rights to that process. (See Doc. 207-19, p. 10 (“In August 1985, Celanese obtained an exclusive license from Sanyo Chemical Industries, Ltd. (Kyoto, Japan) for manufacturing and marketing Sanwet® super absorbent polymers in North and South America”).) And per that licensing agreement, the Sanyo SANWET® Process was put into commercial production in the United States by Celanese in late 1986. (Doc. 207-20, p. 6.)

IV. The Present Dispute

Presently before the Court is a controversy concerning Defendants' alleged infringement of the '329 patent and its ultimate validity. (Doc. 1, pp. 1–2.) Plaintiff contends that Defendants made polyacrylamide products using the '329 patent's protected process at their manufacturing facilities and then offered to sell such polyacrylamide products within the United States. (Id. at pp 5–7.) Defendants deny any infringement. (Doc. 14.) But further, Defendants asserts that BASF's '329 patent is invalid and unenforceable under 35 U.S.C. § 1 *et seq.* (1994), including but not limited to §§ 102 and 103. (Id. at p. 5; see also doc. 207.)

Today the Court takes up the question of patent invalidity. Defendants move for summary judgment of invalidity under 35 U.S.C. § 102(a) and (b) (1994), arguing that (1) another inventor had developed the Sanyo SANWET® Process before the date of patent application, and (2) the Sanyo SANWET® Process was on sale more than one year before the filing date. (Doc. 207-1, pp. 8–10.) Defendants also move for summary judgment of invalidity under 35 U.S.C. § 103 (2006). (Id. at 10.) In response, Plaintiff filed a cross-motion for partial summary judgment that the claims of the '329 patent were not invalid in light of the Sanyo SANWET® Process, among other things. (Doc. 209.) The Court must therefore determine whether the Sanyo SANWET® Process is prior art subject to the constraints of 35 U.S.C. § 102(a) and (b) (1994); if so, whether it was in public use or on sale more than one year prior to the '329 patent's claimed priority date; as well as whether the Sanyo SANWET® Process renders the relevant claim of the '329 patent obvious under 35 U.S.C. § 103 (2006).

Plaintiff's motion for partial summary judgment asks this Court to determine that the patent is not invalid. In doing so, Plaintiff primarily sets forth evidence and argument disputing that the Sanyo SANWET® Process is prior art. (Doc. 209, pp. 12–18.) Plaintiff also argues that

three other processes, patents, and publications do not render the '329 patent invalid: the American Cyanamid Process, a process employed by American Cyanamid to manufacture high molecular weight polymers in reactor vessels; the '948 patent, another patent concerning a process for making polyether ketones patented by Eckhard Neufeld; and the Endian Article, an article by Sang Endian titled "New Polyacrylamide Synthesis Process" and published in the journal Fine Chemical Industry. (*Id.* at pp. 18–24.)

STANDARD OF REVIEW

Summary judgment "shall" be granted if "the movant shows that there is no genuine dispute as to any material fact and that the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). "A dispute about a material fact is genuine and summary judgment is inappropriate if the evidence is such that a reasonable jury could return a verdict for the nonmoving party. However, there must exist a conflict in substantial evidence to pose a jury question." *Hall v. Sunjoy Indus. Grp., Inc.*, 764 F. Supp. 2d 1297, 1301 (M.D. Fla. 2011) (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *Verbraeken v. Westinghouse Elec. Corp.*, 881 F.2d 1041, 1045 (11th Cir. 1989)).

The moving party bears the burden of establishing that there is no genuine dispute as to any material fact and that he is entitled to judgment as a matter of law. *See Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1287, 1298 (11th Cir. 2003). Specifically, the moving party must identify the portions of the record which establish that there are no "genuine dispute[s] as to any material fact and the movant is entitled to judgment as a matter of law." *See Moton v. Cowart*, 631 F.3d 1337, 1341 (11th Cir. 2011). When the nonmoving party would have the burden of proof at trial, the moving party may discharge his burden by showing that the record lacks evidence to support the nonmoving party's case or that the nonmoving party would be

unable to prove his case at trial. See id. (citing Celotex Corp. v. Catrett, 477 U.S. 317, 322–23 (1986)).

When the moving party shows that no genuine disputes of material fact exist, the burden then shifts to the nonmovant to demonstrate a genuine issue of material fact for trial. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 257 (1986). The nonmovant may meet this burden by showing that the record contains “supporting evidence, sufficient to withstand a directed verdict motion, which was ‘overlooked or ignored’ by the moving party.” Fitzpatrick v. City of Atlanta, 2 F.3d 1112, 1116 (11th Cir. 1993) (quoting Celotex, 477 U.S. at 332 (Brennan, J., dissenting)). Alternatively, the nonmovant “may come forward with additional evidence sufficient to withstand a directed verdict motion at trial based on the alleged evidentiary deficiency.” Id. at 1117. But should the nonmovant instead attempt to carry this burden with nothing more “than a repetition of his conclusional allegations, summary judgment for the defendants [is] not only proper but required.” Morris v. Ross, 663 F.2d 1032, 1034 (11th Cir. 1981) (citation omitted).

In determining whether a summary judgment motion should be granted, a court must view the record and all reasonable inferences that can be drawn from the record in a light most favorable to the nonmoving party. Peek-A-Boo Lounge of Bradenton, Inc. v. Manatee County., 630 F.3d 1346, 1353 (11th Cir. 2011) (citing Rodriguez v. Sec’y for Dep’t of Corr., 508 F.3d 611, 616 (11th Cir. 2007)). Importantly, at the summary judgment stage it is the Court’s responsibility “not to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial.” Tolan v. Cotton, 572 U.S. 640, ___, 134 S. Ct. 1861, 1866 (2014) (internal quotation marks omitted) (quoting Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986)). In making its determinations, the Court has taken due care to avoid

weighing conflicting evidence or making credibility determinations, and to resolve conflicting evidence and draw evidentiary inferences in favor of the nonmoving party.

DISCUSSION

I. Legal Standards Applicable to Patent Invalidation Claims

A. Burdens of Proof

Each patent is presumed valid, and this presumption of validity can only be overcome by clear and convincing evidence of invalidity. 35 U.S.C. § 282; Impax Lab., Inc. v. Aventis Pharm., Inc., 468 F.3d 1366, 1378 (Fed. Cir. 2006). Due to this statutory presumption of validity, a moving party who seeks to invalidate a patent at summary judgment must prove invalidity by clear and convincing evidence. Eli Lilly & Co. v. Barr Lab., Inc., 251 F.3d 955, 962–63 (Fed. Cir. 2001).

A patentee has no burden to present factual evidence affirmatively establishing the validity of its patent—not even in support of its own motion for summary judgment on the issue of validity. Massey v. Del Labs., Inc., 118 F.3d 1568, 1573 (Fed. Cir. 1997). Instead, a patentee moving for summary judgment can meet its burden by merely pointing to the nonmoving party’s lack of evidence to support its patent invalidity defense. See, e.g., Celotex, 477 U.S. at 323. But where a moving party seeks to have a patent held valid—as Plaintiff does here through its cross motion—that party must show that the nonmoving party “who bears the burden of proof at trial, failed to produce clear and convincing evidence on an essential element of a defense upon which a reasonable jury could invalidate the patent.” Eli Lilly & Co. v. Barr Labs., Inc., 251 F.3d 955, 962 (Fed. Cir. 2001).

B. Invalidity Under 35 U.S.C. § 102 (1994) (“Novelty”)

Patents must be novel. In challenging a patent’s validity, a party can prove that a patent was not novel by showing either that the invention was known or used by others, or else was in public use or on sale in the United States more than a year prior to the date of the application for patent. 35 U.S.C. § 102(a), (b) (1994). Courts look to the “prior art” in determining whether a patent is novel and unanticipated—prior art being knowledge available to a person of ordinary skill in the art. Bonito Boats v. Thunder Craft Boats, 489 U.S. 141, 150 (1989) (citations omitted); see also HTC Corp. v. Cellular Communs. Equip., LLC, 877 F.3d 1361, 1368 (Fed. Cir. 2017). An anticipation defense (such as invalidity) generally requires showing, by clear and convincing evidence, that each and every element of the specific claim is disclosed in the previously sold product. See Vanmoor v. Wal-Mart Stores, Inc., 201 F.3d 1363, 1365–66 (Fed. Cir. 2000) (citing Evans Cooling Sys. Inc. v. GMA, 125 F.3d 1448, 1451 (Fed. Cir. 1997)); see also Microsoft Corp. v. i4i Ltd. P’ship, 564 U.S. 91, 95 (2011); Therasense, Inc. v. Becton, Dickinson & Co., 593 F.3d 1325, 1332 (Fed. Cir. 2010) (citation omitted).

35 U.S.C. § 102 (1994) sets forth the conditions under which an inventor may lose the right to his or her patent on novelty grounds. A person shall be entitled to a patent unless either:

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.

35 U.S.C. § 102(a), (b) (1994). Both subsections are relevant to the present dispute and whether the challenged patent is novel as contemplated by Section 102.

C. Invalidity Under 35 U.S.C. § 103 (2006) (“Obviousness”)

Nor can a patent be obvious. See 35 U.S.C. § 103 (2006). A patent is obvious when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious” at the time of its invention “to a person having ordinary skill in the art to which said subject matter pertains.” Id. § 103(a). Obviousness is a legal question. See Allergan, Inc. v. Apotex Inc., 754 F.3d 952, 961 (Fed. Cir. 2014) (citing Graham v. John Deere Co., 383 U.S. 1, 17 (1966)). Courts rely on four factual inquiries in determining whether a patent is obvious, and therefore, invalid: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, which might include commercial success, unsolved needs for such an invention, and failure of others to produce the same or comparable inventions. Graham, 383 U.S. at 17–18.

II. Defendants’ Motion for Summary Judgment of Invalidity Under Section 102(a)

If an accused process is “known or used by others” before the invention of the process, the asserted patent is anticipated and is therefore invalid under § 102(a). 35 U.S.C. § 102(a) (1994). As previously outlined, an anticipation defense generally requires demonstration by clear and convincing evidence that every element of the specific patent claim was already disclosed in the previous process. See Vanmoor, 201 F.3d at 1365–66 (citing Evans Cooling Sys. Inc., 125 F.3d at 1451). In other words, a successful anticipation defense shows that the challenged patented process lacks novelty due to the existence of identical prior art that was previously known by others.

Defendants argue that the ‘329 patent is invalid as anticipated under Section 102(a). Defendants specifically assert that Claims 1 and 3–7 of the ‘329 patent are invalid as anticipated

because the same process protected by the ‘329 patent was “known or used by others in this country . . . before the invention thereof by” Hähnle et al. (Doc. 207-1, p. 7.) Defendants argue that process was contained in the Sanyo SANWET® Process. (*Id.*) Plaintiff, however, argues that the Defendants did not show by clear and convincing evidence—as they are bound to do at this summary judgment stage—that the ‘329 patent was anticipated. (Doc. 242, pp. 7, 12.)

Determining validity is a two-step process: first, the Court must properly construe the claims, and second, the Court must compare the construed claims to the prior art. Helifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1346 (Fed. Cir. 2000). The Court previously construed the contested claims, (doc. 122), and has, accordingly, completed the first step of this process. Now, this Court must complete step two by comparing the construed claims of the ‘329 patent to the Sanyo SANWET® Process.

In seeking summary judgment of invalidity for anticipation under 35 U.S.C. § 102(a) (1994), Defendant must demonstrate that there is no genuine issue of material fact as to whether the Sanyo SANWET® Process was the same as the ‘329 patent in every relevant way prior to January 31, 1995: the date on which the first patent application was filed, termed the priority date. In support of its position, Defendants submitted a claim construction chart, demonstrating that the Sanyo SANWET® Process—as practiced by Celanese, Hoescht, and others in the United States before January 31, 1995—included every element of Claims 1 and 3–7 of the ‘329 patent²:

² Only Claims 1 and 3–7 appear in this chart because of the nature of the claims made in Defendants’ Motion. Defendants argue that Claims 1 and 3–7 and Claim 2 of the ‘329 patent are invalid under different statutes and for different reasons. As for Claims 1 and 3–7, Defendants argue that the information in those claims was disclosed to the public via the Sanyo SANWET® Process. Specifically, Defendants allege that the Sanyo SANWET® Process encompasses subject matter that was “in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States” in violation of “35 U.S.C. § 102(b) (1994).” (Doc. 207-1, p. 10.) As for Claim 2, Defendants argue that it is invalid under 35 U.S.C. § 103 (2006) because its words are only a trivial variation of the Sanyo SANWET® Process: the number of degrees in the conical taper angle. (*Id.* at p. 19.)

Claim language in the ‘329 patent	Comparison between the Sanyo SANWET® Process and the ‘329 patent
Claim 1	
“1. A process for preparing high molecular weight polymers	The Sanyo SANWET® Process is a process for preparing high molecular weight polymers. (Doc. 207-11; doc. 207-9, p. 9; doc. 207-42, p. 47.)
. . . which comprises[:] polymerizing water-soluble, monoethylenically unsaturated monomers . . . in aqueous solution in the presence of polymerization initiators	The Sanyo SANWET® Process comprises: <ul style="list-style-type: none"> polymerizing water-soluble, monoethylenically unsaturated monomers, (doc. 207-11 p. 10 (“graft-polymerization . . . among Oxidized Starch, Acrylic Acid and Chemical A”); doc. 207-42, pp. 5, 18, 47 (acrylic acid is a monoethylenically unsaturated monomer)), in aqueous solution, (doc. 207-11, p. 9 (“water balance”); doc. 207-42, pp. 19, 47), in the presence of polymerization initiators, (doc. 207-42, p. 5 (“catalyst”), pp. 19, 47; <u>see also</u> doc. 207-9, pp. 9, 14).
. . . in a tubular reactor which has a conical taper at the end, the ratio of the diameter of the reactor (D1) to the diameter at the end of the conical taper of the reactor (D2) being from 2:1 to 25:1 and the angle between D1 at the start of the conical taper and the inner cone wall being >45° and <90°,	The Sanyo SANWET® Process employs a tubular reactor with this particular geometry. (Doc. 207-42, p. 24; doc. 207-9, pp. 14–18.) The Engineering Package contains a drawing of the reactor design for use in the Sanyo SANWET® Process that has this particular geometry. (Doc. 207-11, p. 46.)
. . . removing the gelatinous reaction mixture by injection of an inert gas.” (Doc. 1-1, p. 10.)	The Sanyo SANWET® Process comprises removing the gelatinous reaction mixture by injection of nitrogen, an inert gas. (Doc. 207-11, p.11; doc. 207-42, p. 47 at p. 180:15– 21; doc. 207-9, pp. 17–18.)
Claim 3	
“3. A process as claimed in claim 1, wherein the water-soluble monoethylenically unsaturated monomers employed are acrylic acid, methacrylic acid, sodium or potassium acrylate, sodium or potassium methacrylate, acrylamide or dimethylaminoethyl acrylate in quaternized form or as a salt or mixtures of the monomers.” (Doc. 1-1, p. 10.)	In the Sanyo SANWET® Process, acrylic acid is employed. (Doc. 207-11, p. 10; doc. 207-42, p. 47; doc. 207-9, pp. 18–19.)

Claim 4	
“4. A process as claimed in claim 1, wherein the water-soluble monoethylenically unsaturated monomers are polymerized with from 0.001 to 5% by weight, based on the total monomers employed in the polymerization, of at least one crosslinker.” (Doc. 1-1, p. 10.)	In the Sanyo SANWET® Process, water-soluble monoethylenically unsaturated monomers are polymerized with approximately 0.1% by weight, based on the total monomers employed in the polymerization, of at least one crosslinker (which is between 0.001 to 5%). (Doc. 207-11, p. 9 (“crosslinking agent”); doc. 207-42, p. 20; doc. 207-9, pp. 19–20 (Freeman Decl.).)
Claim 5	
“5. A process as claimed in claim 1, wherein the polymerization initiators employed are water-soluble azo initiators.” (Doc. 1-1, p. 10.)	In the Sanyo SANWET® Process, the polymerization initiators employed include “4,4’-Azobis-4- Cyanovaleric Acid,” a water-soluble azo initiator. (Doc. 207-11, p. 10; <u>see also</u> doc. 207-42, p. 48; doc. 207-9, p. 20.)
Claim 6	
“6. A process as claimed in claim 1, wherein the polymer gel is removed at the end of the reactor by injection of an inert gas at the entrance of the reactor at a pressure of from 2 to 65 bar.” (Doc. 1-1, p. 10.)	In the Sanyo SANWET® Process, the polymer gel is removed at the end of the reactor by injection of nitrogen, an inert gas, at the entrance of the reactor at a pressure of from 2 to 64 bar. (Doc. 207-11, p. 11 (“5 to 5.5 kg/cm ² ” which is equivalent to 4.9 to 5.4 bar); doc. 207-42, pp. 20, 48; doc. 207-9, pp. 20–21.)
Claim 7	
“7. A process as claimed in claim 1, wherein the polymer gel is removed at the end of the reactor by injection of an inert gas at the entrance of the reactor at a pressure of from 4 to 25 bar.” (Doc. 1-1, p. 10.)	In the Sanyo SANWET® Process, the polymer gel is removed at the end of the reactor by injection of nitrogen, an inert gas, at the entrance of the reactor at a pressure of from 4 to 25 bar. (Doc. 207-11, p. 11 (“5 to 5.5 kg/cm ² “ which is equivalent 4.9 to 5.4 bar); doc. 207-42, pp. 20, 48 2; doc. 207-9, pp. 20–21.)

(Doc. 207-63, pp. 11–15.) The introduction of this chart constitutes evidence that every element of Claims 1 and 3–7 are also present in the Sanyo SANWET® Process.

But this chart was not Defendants’ only evidence. Defendants also presented two experts who specifically considered whether the ‘329 patent claims describe the Sanyo SANWET® Process and concluded that they do. (See Doc. 207-9, pp. 9–18 (Report of Dr. Benny Freeman) (concluding that due to both (1) the Teflon coating within the reactor and (2) Mr. Hubert Fowler’s testimony that the Sanyo SANWET® Process discharged substantially all of the gel

polymer from the reactors, it was his opinion that the Sanyo Process anticipated Claim 1 of the ‘329 patent); doc. 207-4, pp. 11–16 (Report of Mr. Fowler).)

Taking the content of these claim charts and the record support identified in each, together with the expert testimony presented by the Defendants, the Court is convinced that the Sanyo SANWET® Process overlaps with each of Claim 1 and 3–7 of the ‘329 patent. Having demonstrated by clear and convincing evidence that each claim of the ‘329 patent overlaps with the Sanyo SANWET® Process, Defendant has met its burden to proceed to analysis under § 102. The burden therefore shifts to Plaintiff as the non-movant to “produce evidence that results in a conflict of material fact to be resolved by a jury” as to whether the Sanyo SANWET® Process constitutes prior art. Cox v. Ky. Dep’t of Transp., 53 F.3d 146, 150 (6th Cir. 1995).

To meet this burden, Plaintiff makes three arguments concerning differences between the Sanyo SANWET® Process and the process protected by the ‘329 patent. First, Plaintiff argues that during the Sanyo SANWET® Process, an inert gas does not act directly upon the gelatinous reaction mixture. (Doc. 242, pp. 16–17.) Second, Plaintiff argues that a piston, not an inert gas, affects the removal of the gelatinous reaction mixture. (See Doc. 329, pp. 42, 44, 77.) Finally, Plaintiff argues that substantially all of the gelatinous reaction mixture is not removed from the conical reactor. (Doc. 242, pp. 17–18.) The Court addresses each of these arguments in turn to determine whether Defendant demonstrated, by clear and convincing evidence, that the Sanyo SANWET® Process contains every element of the ‘329 patent.

A. Comparing the ‘329 Patent Claims to the Sanyo SANWET® Process

(1) Whether the Inert Gas Acts Directly Upon the Gelatinous Reaction Mixture

Claim 1 of the ‘329 Patent describes “[a] process for preparing high molecular weight polymers, which comprises . . . removing the gelatinous reaction mixture by injection of an inert

gas.” (Doc. 1-1, p. 10.) The Court has previously construed the phrase in Claim 1, “removing the gelatinous reaction mixture by injection of an inert gas,” as properly constructed “substantially all the gelatinous reaction mixture is discharged from the reactor by injection of inert gas and requiring that the inert gas act directly upon the gelatinous reaction mixture.” (Doc. 122, pp. 19–20.) To anticipate Claim 1 of the ‘329 patent, the Sanyo SANWET® Process must likewise discharge substantially all of the gelatinous reaction mixture by the injection of an inert gas, acting directly on the reaction mixture.

Plaintiff argues the Defendant presented no evidence that the Sanyo SANWET® Process is accomplished via injection of inert gas acting directly upon the gelatinous reaction mixture. (Doc. 242, pp. 16–17.) As such, Plaintiff argues that *how* the gelatinous reaction mixture was removed from the conical taper presents a genuine issue of material fact precluding summary judgment. (Doc. 242, p. 17.) Defendant disagrees and points to evidence throughout the record indicating that the Sanyo SANWET® Process constituted the application of inert gas acting directly upon the reaction mixture:

- First, Defendant presented evidence that the Sanyo SANWET® Process, communicated by Sanyo to Celanese in 1984, included the element that polymer would be discharged from the conical reactor via application of nitrogen gas. The following image, (doc. 242-6, p. 10), is Sanyo’s description of the process, which contains the same language:

Process No.	Process	Description	Key equipment														
	<div><div>Nitrogen gas</div><div>2-3</div><div>Discharge</div></div>	<div>2-3</div> <p>Purpose: To discharge polymer at a constant speed.</p> <p>Conditions: Discharge speed is to be matched with drying speed.</p> <table><tr><th rowspan="2">Drum Dryer No.</th><th colspan="2">Discharge speed (kg/hr)</th></tr><tr><th>DM-1000</th><th>DM-1500</th></tr><tr><td>12D-321 or 12D-322</td><td>560</td><td>500</td></tr><tr><td>12D-324 or 12D-325</td><td>700</td><td>630</td></tr><tr><td>12D-326</td><td>1000</td><td>900</td></tr></table> <p>Remarks: 1) At Sanyo, the polymer is discharged from the reactor under the back pressure of 5 to 5.5 kg/cm² G by nitrogen gas.</p> <p>2) It is very important to discharge the polymer within 48 hrs after the end of feeding.</p> <p>The deterioration of polymer occurs under high temperature.</p>	Drum Dryer No.	Discharge speed (kg/hr)		DM-1000	DM-1500	12D-321 or 12D-322	560	500	12D-324 or 12D-325	700	630	12D-326	1000	900	12D-331A,B,C,D
Drum Dryer No.	Discharge speed (kg/hr)																
	DM-1000	DM-1500															
12D-321 or 12D-322	560	500															
12D-324 or 12D-325	700	630															
12D-326	1000	900															

- Second, Defendant presented the deposition of Dr. Francis Schork, in which Dr. Schork interpreted the above description of the tubular reaction vessel and the discharge instructions. He described this as pressurizing the vessel at the bar pressure of 5 to 5.5 bar for the purpose of pushing out the gelatinous reaction mixture within the vessel. (Doc. 268-2, p. 22.)
- Third, Defendant presented the First Supplemental Expert Report of Dr. Freeman. In that report, Dr. Freeman stated that the Sanyo SANWET® Process included “removing the gelatinous reaction mixture by injection of nitrogen, an inert gas acting directly upon the gelatinous reaction mixture.” (Doc. 207-9, p. 17.) To support this conclusion, Dr. Freeman noted that Sanyo’s technical information demonstrated “the polymer is discharged from the reactor under the back pressure of 4.2 to 4.8 kg/cm² G by nitrogen gas.” (Id. (quoting doc. 242-7, p. 15); see also doc. 242-6, p. 10.)
- Fourth, the Fowler Report indicated that the Portsmouth Plant—where the Sanyo SANWET® Process was operationalized—discharged the gelatinous reaction mixture by means of nitrogen gas. (Doc. 242-12, p. 16.)
- Fifth, Mr. Shigeo Inoue of Sanyo testified that the Sanyo SANWET® Process used nitrogen in order to remove the polymer. (Doc. 207-8, p. 6 at p. 17:1–21.)
- Sixth, Mr. Fowler’s Deposition indicated that nitrogen was applied directly to the gel in order to remove it. (Doc. 232-18, pp. 37–38 at pp. 140:10–24 (“So you have this gel in the reactor and you apply nitrogen pressure at the top. . . . And you discharge [the gel] slowly by adding the pressure, and then you’re sucking out or pulling out the polymer at the bottom of this reactor.”), 141:24-142:1–3 (“You form a gel . . . [i]n the reactor. You add nitrogen to push it out.”).)

Viewing the undisputed facts in the record in the light most favorable to the Plaintiff as the non-moving party, the Court determines that the Defendant has shown by clear and convincing evidence that the prior Sanyo SANWET® Process involves the injection of an inert gas acting directly upon a gelatinous mixture. Plaintiff BASF did not produce evidence resulting in a conflict of material fact that must be resolved by a factfinder. See Cox, 53 F.3d at 150. Accordingly, Plaintiff has not identified a material factual dispute precluding summary judgment as to the inert gas novelty issue.

(2) Whether a Piston Acts Directly Upon the Gelatinous Reaction Mixture

Alternatively, Plaintiff raises the theory that a piston acts directly on the gelatinous mixture in order to remove it from the conical reactor in the prior Sanyo SANWET® Process but not in the ‘329 patent process. (See Doc. 329, pp. 42, 44, 77.) Evidence in the record does not support Plaintiff’s argument. This is so for at least three reasons.

First, Dr. Freeman indicated that in his review of the Sanyo SANWET® Process, he found “no indication that a piston or any other device or compound was positioned between the gelatinous reaction mixture and the nitrogen gas for discharge.” (Doc. 207-9, p. 17.) Second, Mr. Inoue did not testify that the Sanyo SANWET® Process included a piston but rather that the vessel worked by putting nitrogen gas pressure on top of the gelatinous mixture to eject it from the reactor. (See Doc. 242-14, pp. 11–15.) Third, both the Fowler Report and the Fowler Deposition indicated that the Portsmouth Plant discharged the gelatinous reaction mixture by means of nitrogen gas without the aid of a piston. (Doc. 242-12, pp. 11–12, 16; doc. 232-18, pp. 35–36.)

Based on this record, BASF has not provided this Court with any evidence—only attorney argument at the hearing—that the gelatinous mixture is removed via the operation of a

piston. “Unsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony.” Invitrogen Corp. v. Clontech Labs., Inc., 429 F.3d 1052, 1068 (Fed. Cir. 2005). Viewing the undisputed facts in the record in the light most favorable to the nonmoving party, and applying the claim construction previously determined by the Court, no reasonable fact finder could find that a piston acts on the gelatinous reaction mixture in order to remove it during the prior Sanyo SANWET® Process. Accordingly, Plaintiff has not identified a material factual dispute precluding summary judgment as to the piston novelty issue.

(3) Whether Substantially All of the Gelatinous Mixture is Removed

Third, Plaintiff argues that Defendants failed to establish that the Sanyo SANWET® Process discharges “substantially all of the gelatinous reaction mixture” as required under the Court’s construction of the claim language. (Doc. 242, p. 17.) Plaintiff argues that under the Sanyo SANWET® Process, a designated amount of polymer gel remains in the polymerization reactor after the discharge step. (Doc. 242-7, p. 50 (“Switch over the gel discharge from the reactor of discharge end to another one when the remained [sic] gel in the discharged reactor comes to the designated quantity.”); doc. 242-10, p. 13 (responding that “usually [Sanyo did] leave a heel in” the reactor to “mitigate blow-through”).) Plaintiff argues that the practice of leaving a heel places the Sanyo SANWET® Process outside the meaning of the ‘329 patent claim language, rendering the ‘329 patent novel.

Defendant disagrees, arguing that the evidence describing the discharge operation—even the practice of leaving a heel—falls within the claim language of “removing.” (Doc. 330, p. 16.) This is for two reasons: (1) the “removing” element can properly be described as occurring batchwise or continuously, and (2) undisputed evidence in the record indicates that the pilot plant

operated by Celanese and Hoescht prior to January 31, 1995 performed the Sanyo SANWET® Process in a manner that did not include the retention of a “heel.” (Doc. 330, pp. 17–18.) Defendant rests its first argument on four main points: (1) that BASF’s expert testified that the discharge operation removes substantially all of each batch of polymer gel, with any remaining gel “flush[ed] out with the next batch,” (doc. 232-15, p. 19–20); (2) that all experts who have specifically considered whether the ‘329 patent claims describe the Sanyo SANWET® Process have concluded affirmatively, (see doc. 207-9 (Report of Dr. Freeman) (concluding that due to both the Teflon coating within the reactor and Mr. Fowler’s testimony that the Sanyo SANWET® Process discharged substantially all of the gel polymer from the reactors, it was his opinion that the Sanyo Process anticipated Claim 1 of the ‘329 patent); doc. 207-4, pp. 11–16 (Report of Mr. Fowler)); (3) the specification of the ‘329 patent states that the claimed process “can be carried out batchwise or continuously,” (doc. 207-3, p. 6); and (4) finally, that BASF previously represented to the Federal Circuit that a reactor may be operated in both batch and continuous polymerization and expressed that batch operation “is not excluded by the Board’s construction,” (see doc. 330, p. 17 (citing SNF Holding Co. v. BASF Corp., IPR2015-00600 (P.T.A.B. 2016), *aff’d mem.*, 698 Fed. App’x 1034 (Fed. Cir. 2017) (per curiam))).

Defendant then makes a second argument: there is no dispute on the record that the Portsmouth Pilot Plant performed the “removing” element of the ‘329 patent. (Doc. 330, p. 18.) The undisputed evidence indicates that Celanese and Hoescht operated a pilot plant in Portsmouth, and that plant employed the Sanyo SANWET® Process. (Doc. 207-1, p. 19 (citing 207-4, pp. 8–9, 16, 18–20. And, Defendant argues, the record evidence demonstrates that the pilot plant did not operate the process to keep “heels” of gel. (Doc. 242-10, p. 15 (At the “pilot plant, we didn’t have heels. The whole thing was just [dis]charged.”).)

Even viewing the evidence presented by the Plaintiff in a light most favorable to it—that there is a practice of leaving a “heel” in the reactor during the prior Sanyo SANWET® Process—does not create a genuine issue of material fact that would preclude summary judgment. A practice of leaving a “heel” in the reactor does not conflict with the claim language of the removal of substantially all of the gel in the reactor. Moreover, the record evidence is undisputed that the Portsmouth Pilot Plant process did not, in practice, leave a heel in the reactor. No evidence in the record indicates that the discharge operation described in the Sanyo Operating Manual is beyond the scope of the claim language: “removing the gelatinous reaction mixture by injection of an inert gas,” (doc. 1-1, p. 10). Accordingly, Plaintiff has not identified a material factual dispute precluding summary judgment as to the “heel” novelty issue. Therefore, after considering the respective parties’ arguments as to the differences between the two processes, the Court finds that every element of the ‘329 patent’s claims were disclosed by the prior Sanyo SANWET® Process.

B. The Meaning of “Known or Used by Others”

To establish that Plaintiff’s asserted patent claims are invalid because they were anticipated by the Sanyo SANWET® Process, Defendants must establish that Sanyo’s process is anticipatory prior art under 35 U.S.C. § 102(a) (1994). In addition to showing identity between the ‘329 patent and the Sanyo SANWET® Process, this defense includes the burden of persuading the factfinder that the Sanyo SANWET® Process was known in the United States or published before the priority date of the patent in the present suit.

The crux of the parties’ disagreement is the meaning of an invention being “known or used by others” within the purview of 35 U.S.C. § 102(a) (1994). Defendant argues that the Sanyo SANWET® Process was “known or used by others in this country”—namely, Celanese,

Hoescht, and agents of the same—before the ‘329 patent’s priority date. (Doc. 207-1, p. 15.) Plaintiff disagrees, arguing that the Sanyo SANWET® Process was not accessible to the public under the meaning of § 102(a). (Doc. 242, p. 7.) The Court’s analysis therefore starts with determining the meaning of “known or used by others,” before applying that language to the case at hand.

For Defendants, an invention is “known or used by others” if two elements are satisfied: (1) the invention must have been operative, and (2) the invention must have been known by at least one other person. (Doc. 329, p. 15.) As the basis of their first prong, Defendants point to precedent demonstrating that an invention must be operative in order to satisfy 35 U.S.C. § 102(a) (1994). (Doc. 207-1, p. 11 (citing Coffin v. Ogden, 85 U.S. (18 Wall.) 120, 124 (1873) (“If the question relate [sic] to a machine, the conception must have been clothed in substantial forms which demonstrate at once its practical efficacy and utility.”)).) As to their second point, Defendants argue that a single person’s knowledge or use is sufficient because Supreme Court precedent has described it as such. (Id. (citing Coffin, 85 U.S. at 124–25 (“The prior knowledge and use by a single person is sufficient. The number is immaterial.”)).)

Plaintiff does not disagree that the process must be operative. But Plaintiff does disagree with Defendant on the meaning of “known or used by others” under 35 U.S.C. § 102(a) (1994). For Plaintiff, this subsection has been interpreted to mean *publicly* “known or used,” and the word “public” should construed according to its plain meaning. (See Doc. 242, pp. 13–15 (“Prior art under § 102(a) must be accessible to the public to qualify.”).) Plaintiff rests this argument on case law from which this principle might be inferred. See, e.g., Gayler v. Wilder, 51 U.S. (10 How.) 477, 497 (1851) (“[B]y knowledge and use the legislature meant knowledge and use existing in a manner accessible to the public.”); W.L. Gore & Assocs., Inc. v. Garlock,

Inc., 721 F.2d 1540, 1549 (Fed. Cir. 1983) (“The nonsecret use of a claimed process in the usual course of producing articles for commercial purposes is a public use.” (citation omitted)). Under such construction, Plaintiff argues, confidential use under the limitations of a secrecy agreement cannot satisfy the publicity requirement of § 102(a). (Doc. 242, p. 14 (“Confidential use is not public use, and thus the sharing of the Sanyo SANWET® Process with its private licensee does not and cannot qualify as prior art under 102(a).”).)

Plaintiff’s argument cannot carry the day. Supreme Court precedent squarely interprets the requirements of 35 U.S.C. § 102(a) (1994) as requiring the knowledge of only a single person. Nor do the exceptions carved out within the case law apply to the facts at hand.

First, the Supreme Court has long interpreted the statutory language “known or used by others in this country” as requiring only limited knowledge or use. As to the scope of such knowledge or use, the Court is persuaded that the principle articulated by the United States Supreme Court in Coffin v. Ogden, and consistently embraced by that Court and lower courts since, controls. 85 U.S. at 124–25 (interpreting the scope of knowledge and use by another as requiring only “a single person” and stating that “[t]he number is immaterial”); Smith v. Hall, 301 U.S. 216, 226–27 (1937) (stating that a patent may be invalid if a single person “knew and used the method with operative success”); Corona Code Tire Co. v. Dovan Chem. Corp., 276 U.S. 358, 385 (1928) (holding that the prior knowledge and implementation of the patented process by one person prior to the patent date rendered the patent invalid).

Moreover, precedent clarifies that whether prior use is secret or confidential is immaterial. As such, Plaintiff’s argument that the Court’s conclusions in Coffin do not apply to knowledge that is kept secret or confidential is unpersuasive. To support that argument, Plaintiff cites to United Chromium, Inc. v. General Motors Corp., 11 F. Supp. 694, 699 (D. Conn. 1935)

(holding that in order to render a patent void of lack of novelty, “such knowledge and use must have been accessible to the public, whereas all of [this] knowledge and doings were kept secret”). But Plaintiff should know—and Defendant rightly pointed out—that United Chromium was reversed on appeal: the Second Circuit Court of Appeals held there was a “prior invention” within the language of the statute, despite the lower court’s determination that the prior knowledge at issue was secret and confidential. See United Chromium, Inc. v. Gen. Motors Corp., 85 F.2d 577, 579 (2d Cir. 1936) (holding that “there was prior invention” that rendered the process known or used by others under the statutory language).

Defendant is correct that all that is required to render a patent less than novel is one person’s use or knowledge. Plaintiff would argue that Gayler v. Wilder states that one person’s knowledge or use is not always patent-defeating. 51 U.S. at 497. That may be true, but the circumstances of Gayler are unlike the circumstances of this case. Gayler does not contradict the Supreme Court’s later holding in Coffin v. Ogden; rather, the two are complementary. In Gayler, the Supreme Court held that a fireproof safe was not known or used by others even though another inventor had previously created the same safe and forgotten it. Id. at 497–98. The Court’s implication is that forgotten knowledge cannot be publically available. See, e.g. Caroline A. Schneider, The New Novelty: Defining The Content of ‘Otherwise Available To The Public, 41 J. Legis. 151, 161 (2015) (describing the Court’s analysis in Gayler v. Wilder as further defining circumstances where knowledge can be made public). Moreover, the jury instruction the Court approved in Gayler expressed the rule that a single person’s knowledge or use of a claimed invention could still be patent defeating. 51 U.S. at 498 (affirming the instruction that if the pre-existing fireproof safe was “still in the memory of Conner,” then the later inventor would not be entitled to patent due to his patent not being novel).

As Defendants rightly put it, the “legal standard of novelty is whether a claimed invention was ‘known or used by others in this country . . . before the invention thereof by the applicant for patent,’ 35 U.S.C. § 102(a) (1994), not whether persons *having* such prior knowledge *disseminate* it to a greater or lesser degree.” (Doc. 330, p. 11.) Thus, in light of the foregoing discussion of applicable law, the Court determines that a single person’s knowledge or use of an operative process, when that individual is not the inventor, may be patent-defeating.

(1) Whether the Sanyo SANWET® Process was, in Fact, “Known or Used by Others”

Applying those prongs, Defendants assert that the Sanyo SANWET® Process was both (1) operative and (2) known by at least one person at the time of the ‘329 patent application. (Doc. 207-1, pp. 11–15.) Evidence in the record demonstrates both that Celanese and Hoescht possessed instructions about the process that were complete and “capable of producing the result sought to be accomplished.” Coffin, 85 U.S. at 124.

Undisputed evidence demonstrates that Celanese possessed a 182-page “Technical Information” document setting forth, in detail, a description of the process. (Doc. 207-4, p. 7; doc. 207-8, p. 5.) The description contained therein was “sufficiently specific to enable a person skilled in the art to practice the invention.” Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 67–68 (1998). Moreover, record evidence indicates that the process described in the Technical Information was, in fact, implemented. The Registration Statement submitted by Hoescht Celanese in 1987 reports their procurement of the Sanyo SANWET® Process and their implementation of that process to make super-absorbent materials. (Doc. 207-20, p. 6 (“In August 1985, this Group obtained an exclusive license from Sanyo Chemical Industries, Ltd. for manufacturing and marketing SANWET® (a registered trademark of Sanyo) super absorbent polymers in North and South America In late 1986, Celanese began commercial production

of SANWET® polymers in the United States.”). As such, the record demonstrates that the Sanyo SANWET® Process was operative and “known or used by others” under the language of 35 U.S.C. § 102(a) (1994).

(2) Whether Such Knowledge or Use was Before the Invention of the Applicant for Patent

Having determined that the Sanyo SANWET® Process was known or used by others, the Court must now determine whether such knowledge or use was “before the invention of the applicant for patent.” 35 U.S.C. 102(a) (1994). The ‘329 patent was effectively filed on January 31, 1995, and was issued on May 27, 1997. (Doc. 1-1, p. 2.) For the purposes of the ‘329 patent, the § 102 phrase “before the invention thereof for the applicant for patent” means before the filing of the patent application—that is on January 31, 1995. 35 U.S.C. § 119.

The Court concludes that the Sanyo SANWET® Process was known or used before January 31, 1995. Undisputed evidence demonstrates that the Sanyo SANWET® Process was furnished by Sanyo to Celanese on or about December 19, 1984, via the “Technical Information” document, 182 pages in length. (Doc. 207-4, p. 7; doc. 207-8, p. 5.) This date precedes January 31, 1995—and is, as such, before invention of the applicant for patent.

In sum, Defendants have demonstrated by clear and convincing evidence that the Sanyo SANWET® Process is prior art to the ‘329 patent—and, moreover, that the Sanyo SANWET® Process was “known or used” by Celanese and others before January 31, 1995. Try as they might, Plaintiff has not called into question these conclusions nor raised a genuine issue of material fact that would preclude summary judgment. Accordingly, the Court **GRANTS** Defendants’ Motion for Summary Judgment on anticipation of Claims 1 and 3–7 of the ‘329 patent under Section 102(a). (Doc. 207-1, pp. 10–15.)

III. Defendants' Motion for Summary Judgment of Invalidity Under Section 102(b)

Even if summary judgment had not been due under Section 102(a), Section 102(b) provides additional, independent grounds for granting summary judgment to Defendants. Because the Sanyo SANWET® Process was both “in public use” and “on sale” in this country more than a year prior to the date of the application for patent, Plaintiff is not entitled to its asserted patent. Section 102(b) outlines circumstances under which loss-of-right to a patent may occur. Under this section of the statute, even where a patent applicant is the original inventor of a claimed invention, that inventor may lose his or her right to the patent where the invention was in public use or on sale more than one year before the patent’s filing date. 35 U.S.C. § 102(b) (1994) (“A person shall be entitled to a patent unless the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.”).

Defendant argues that the statute is satisfied on two grounds: both because the invention was on sale and because the invention was in public use. (Doc. 207-1, pp. 16–19.) On the first ground, Defendant contends that the language of 35 U.S.C. § 102(b) (1994) is satisfied because the Sanyo SANWET® Process was the subject of a commercial offer for sale by Sanyo to Celanese on or about December 19, 1984, and that this offer was consummated by a written License Agreement dated July 1, 1985. (*Id.* at p. 16.) As such, Defendants argue, the invention was “on sale” in the United States more than one year prior to the date of the application for patent. Quoting Helsinn Healthcare, S.A. v. Teva Pharmaceuticals USA, Inc., 855 F.3d 1356, 1370 (Fed. Cir. 2017), Defendants argue that because “an invention is made available to the public when there is a commercial offer or contract to sell a product embodying the invention and that sale is made public,” the License Agreement constituted a sale prior to one year of the

date of the patent application. (Doc. 207-1, pp. 17–18.) As for its second ground, Defendant argues that 35 U.S.C. § 102(b) (1994) is satisfied because the Sanyo SANWET® Process was in public use at the Portsmouth Plant and Pilot Plant more than one year prior to the application for patent. (Id. at pp. 18–19.)

A. Whether the Invention was “in Public Use”

The Court first examines whether the Sanyo SANWET® Process was commercially used more than one year prior to filing the ‘329 Patent. Since only novel inventions may be patented, 35 U.S.C. § 102(b) (1994) bars patents that are “in public use . . . more than one year prior to the date of the application for patent in the United States.” “The proper test for the public use prong of the § 102(b) statutory bar is whether the purported use: (1) was accessible to the public; or (2) was commercially exploited.” Invitrogen, 424 F.3d at 1380. To be accessible to the public, the Federal Circuit directs courts to look to, among other things, “the nature of the activity that occurred in public; the public access to and knowledge of the public use; [and] whether there was any confidentiality obligation imposed on persons who observed the use.” Bernhardt, L.L.C. v. Collezione Europa USA, Inc., 386 F.3d 1371, 1379 (Fed. Cir. 2004) (alteration in original) (citation omitted). Moreover, “the ordinary use of a machine or the practice of a process in a factory in the usual course of producing articles for commercial purposes is a public use.” Invitrogen, 424 F.3d at 1382 (quoting Electric Storage Battery Co. v. Shimadzu, 307 U.S. 5, 20 (1959)).

Celanese made commercial use of the Sanyo SANWET® Process more than a year before the application for patent was filed in the United States. (See Doc. 207-16, p. 6; doc. 207-23, p. 6; doc. 207-22; doc. 207-28, p. 8.) That the commercial use was protected by a secrecy agreement or confidentiality arrangement does not excuse the arrangement from being “public”

in this case. See Invitrogen, 424 F.3d at 1382 (“[T]here are instances in which a secret or confidential use of an invention will nonetheless give rise to the public use bar”); TP Laboratories, Inc. v. Professional Publishers, Inc., 724 F.2d 965, 972 (Fed. Cir 1984) (Generally, a secret use may be public “within the meaning of the statute, if the inventor is making commercial use of the invention under circumstances which preserve its secrecy.”).³ This is, in part, due to the fact that the exploitation was far from de minimus. The record reflects that the Portsmouth Plant, where the Sanyo SANWET® Process was implemented, produced over 150 million pounds of super-absorbent polymers per year between 1988 and 1992. (Doc. 207-4, p. 18.) Moreover, the public had knowledge of and access to that facility; Celanese and Hoescht built and operated a next-door pilot plant for demonstration purposes and invited guests to tour it without any expectation of privacy. (Id. at pp. 7–8 (“We also constructed a pilot plant with a reactor of approximately 100 gallon capacity”), pp. 16, 18–19 (“We gave tours of the plant at times to members of the public on several occasions that I can recall, without any requirement of confidentiality. At the grand opening, the mayor of Portsmouth and the Lieutenant Governor of Virginia, along with many other members of the public and press were in attendance and were given a complete tour of the new SAP plant.”).) Public knowledge of the plant was further indicated by a contemporaneous newspaper article depicting the plant’s interior. (Doc. 207-28, p. 5.)

Because there is no genuine issue of material fact as to whether Celanese commercially exploited the Sanyo SANWET® Process more than a year before the application for patent; because commercial use can constitute public use; and because this commercial use *was* public

³ Plaintiff does not meaningfully grapple with this principle. In responding to Defendants’ Section 102(b) arguments, Plaintiff primarily challenges the legal materiality of the plant tours, (doc. 242, pp. 18–20), rather than persuasively rebutting the effect of Defendants’ commercial exploitation in establishing public use of the Sanyo SANWET® Process. See Kinzenbaw v. Deere & Co., 741 F.2d 383, 390 (Fed. Cir. 1984) (“A commercial use is a public use even if it is kept secret.” (citations omitted)).

use—the process was used to make (a) a substantial quantity of polymer, (b) for half a decade, (c) in a facility known of and in many respects accessible to the public—the Court is satisfied that the Sanyo SANWET® Process was in public use under the meaning of § 102(b).

B. Whether the Invention was “On Sale”

The Sanyo SANWET® Process was also “on sale” within the meaning of 35 U.S.C. § 102(b) (1994) (“A person shall be entitled to a patent unless the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States.”).

Defendants argue that the transfer of a license agreement and the fully-functioning Portsmouth Plant constitutes a “sale” under the meaning of § 102(b). (Doc. 268, p. 11.) To make their point, they argue that the transfer of ownership is analogous to that in Minton v. National Association of Security Dealers, Inc., 336 F.3d 1373 (Fed. Cir. 2003). In Minton, a patentee delivered a computer system to a recipient, and the computer program allowed the recipient to carry out a process. Id. at 1375. The Federal Circuit held that the patented process was on sale and sold, because it had a performance guarantee and was fully operative at the time of the sale. Id. at 1377–78. Thus, Defendants contend that Sanyo’s delivery of the 182-page process document, (docs. 207-11–14), to Celanese fulfilled the same role as the delivery of a computer system in Minton.

Here, as there, the user was put in possession of a process and had the ability to perform the process. (Doc. 329, pp. 17–18.) The document’s delivery is undisputed. (See Doc. 207-4, p. 7; doc. 207-8, p. 5.) And, moreover, it is certain that the process was implemented. (Doc. 207-20, p. 6 (“In August 1985, this Group obtained an exclusive license from Sanyo Chemical Industries, Ltd. for manufacturing and marketing SANWET® (a registered trademark of Sanyo)

super absorbent polymers in North and South America In late 1986, Celanese began commercial production of SANWET® polymers in the United States.”.) Therefore, here—just as in Minton—delivery of the technical information made it possible for Celanese to perform the Sanyo SANWET® Process.

But Plaintiff contends that the Defendant has not shown, by clear and convincing evidence, that the Sanyo SANWET® Process constitutes a commercial offer for sale. (Doc. 242, p. 21–24.) First, Plaintiff argues that Sanyo’s license agreement was only a transfer of know-how and technical information, not a sale. (Doc. 242-14, p. 8 (Mr. Inoue describing the “nature of the license [as] based on know-how . . . [and] technology.”). To support their argument, Plaintiff cites to In re Kollar, 286 F.3d 1326, 1332–33 (Fed. Cir. 2002), in which the Federal Circuit held that a license of know-how of a chemical process along with the rights to practice that process and sell any resulting product did not constitute a “sale” under § 102(b). Moreover, Plaintiff argues that Minton does not apply, because the Court in Minton said that a “lease” and a “license to know-how” are different and defined a license as “only a transfer of technical information about the claimed process and a license under any future patents to practice the process and sell resulting the products.” Minton, 336 F.3d at 1378.

Despite these arguments, Plaintiff did not identify a genuine issue of material fact. Under the Federal Circuit’s reasoning in Minton, the Sanyo SANWET ® Process was not “only a transfer of technical information about the claimed process and a license under any future patents to practice the process and sell resulting products.” Id. Rather, Sanyo provided: (1) a license agreement, (doc. 207-15); (2) technical information and know-how needed to manufacture superabsorbent polymers, (doc. 207-4, p. 9); (3) manufacturing and marketing rights, (id.); (4) Sanyo’s continued technical support for and in-person assistance with the start-up of

Celanese’s manufacturing plant in Portsmouth, Virginia, (doc. 207-15, pp. 6–8; doc. 207-4, p. 10; doc. 207-8, pp. 4, 11–13); and (5) a team of Sanyo employees to come to the Portsmouth Plant to assist in its building and commercial operations, (doc. 207-4, pp. 12, 17; doc. 207-8, p. 13). Like the Federal Circuit in Minton, the Court determines that the transmission of the process description to a user with the ability to perform the process constitutes putting the process “on sale” within the meaning of 35 U.S.C. § 102(b) (1994).

In sum, because the Sanyo SANWET® Process was both in public use and on sale more than one year prior to the ‘329 patent application, the ‘329 patent lacks novelty and Plaintiff is not entitled to it under Section 102(b). Accordingly, the Court **GRANTS** Defendants’ Motion for Summary Judgment on anticipation of Claims 1 and 3–7 of the ‘329 patent under Section 102(b). (Doc. 207-1, pp. 16–19.)

IV. Defendants’ Motion for Summary Judgment of Invalidity Under Section 103

The Court moves to the third issue presented by Defendants’ Motion for Summary Judgment: whether the Sanyo SANWET® Process renders obvious the subject matter described in Claim 2 of the ‘329 patent under 35 U.S.C. § 103 (2006) (“A patent may not be obtained . . . if . . . the subject matter as a whole would have been obvious at the time [of] invention . . .”).

Claim 2 of the patent describes “[a] process as claimed in claim 1, wherein the angle between D1 and the inner cone wall is from 65° to 85°.” (Doc. 1-1, p. 10.) At issue is the angle of the cone wall: the Sanyo SANWET® Process utilizes a conical reactor with dimensions very near to the scope of the ‘329 patent. But there is one difference: the Sanyo SANWET® Process’s reactor has an angle of 60°. (Doc. 207-1, pp. 19–21.) Defendant contends this matter of degree is a difference “well within the grasp of a person of ordinary skill in the relevant art.” (Id. at pp. 19–20 (quoting KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 427 (2007)).)

A patent is obvious if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a) (2006). “Obviousness is a legal conclusion based on the underlying facts.” Allergan, 754 F.3d at 961 (citing Graham, 383 U.S. at 17). To determine whether a patent is obvious, the Court considers: (1) the scope and content of the prior art; (2) the difference between the prior art and the claimed invention; (3) the level of ordinary skill in the art; and (4) any objective evidence of nonobviousness. Graham, 383 U.S. at 17–18. The party asserting invalidity bears the burden of proving “by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” Procter & Gamble Co. v. Teva Pharm. USA, Inc., 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting Pfizer, Inc. v. Apotex, Inc., 480 F.3d 1348, 1361 (Fed. Cir. 2007)).

Summary judgment as to obviousness and anticipation is appropriate where the “factual inquiries [underlying those legal questions] present no lingering genuine issues.” Beckson Marine, Inc. v. NFM, Inc., 292 F.3d 718, 723 (Fed. Cir. 2002). In order to demonstrate obviousness, Defendant must show that Claim 2 of the Sanyo SANWET® Process was obvious to a person of ordinary skill in the polymer industry based on the prior art that existed at the time of invention. See 35 U.S.C. § 103 (2006). Plaintiff BASF may point to a lack of evidence to support the obviousness defense, thereby placing the burden on Defendants to show evidence that creates a genuine dispute about a material fact as to obviousness.

Defendant argues that the skill level in the art of the ‘329 patent—as of January 25, 1979—can be found in the published Japanese patent Application No. S54-10387 entitled “Method of Manufacturing Water-Soluble Polymer Gel.” (Doc. 207-1, pp. 21–24; see also doc. 207-63, p. 21; doc. 207-30, pp. 3–6; doc. 236-3, p. 25.) Defendant contends that this publication, along with the skill and knowledge of Celanese and Hoescht, made it obvious that tubular reactors with inverted conical bottoms were suitable for making a gelatinous reaction mixture, and taking out that mixture with the use of a pressurized inert gas. (Doc. 207-1, pp. 22–23, 24; doc. 207-63 p. 21.) Once “the concept of a conical reactor [was] known, then of course one would be motivated to optimize the dimensions of that conical reactor.” (Doc. 207-32, pp. 5–6) (Dr. Schork, expert for Plaintiff, testifying). In other words, it required only ordinary skill in the polymer industry to tweak the angle of the conical reactor those five degrees.

Plaintiff argues that Claim 2 of the ‘329 Patent would not have been obvious both because (1) the Sanyo SANWET® Process does not qualify as prior art under Section 102 and (2) because there would have been no motivation to modify the Sanyo SANWET® Process to suggest the limitations of Claim 2. (Doc. 242, p. 7.) But the Court determined the answer to the first question—the process does qualify as prior art—so the focus here is only on the second. On that point, Plaintiff argues that as of January 31, 1995, a person skilled in the polymer art would have “no reason” to use the conical reactor angles that are specified in Claim 2. (Doc. 242, p. 25.) Plaintiff calls into question *why*, exactly, a person of ordinary skill in the polymerization art would have modified the 60° angle in the Sanyo SANWET® Process to come within the angle range delineated by Claim 2. (Id.)

The Court finds that the concept of a conical reactor was known prior to January 31, 1995: clearly by Celanese and Hoescht, though the Court is not convinced that clear and

convincing evidence demonstrates that readers of published descriptions of Sanyo’s methods of preparing high molecular weight polymers knew the process, too. Given that the concept was known, the Court must determine whether an individual of ordinary skill would have had reason to modify the cone angle based on the particular gel for which a reactor was designed. “[A] change only in form, proportions, or degree, doing the same thing in the same way, by substantially the same means, with better results, is not such an invention as will sustain a patent.” R.R. Supply Co. v. Elyria Iron & Steel Co., 244 U.S. 285, 292 (1917) (quoting Roberts v. Ryer, 91 U.S. 150, 159 (1875)). “[O]bviously a mere change in proportion would involve no more than mechanical skill and would not amount to invention.” Powers-Kennedy Contracting Corp. v. Concrete Mixing & Conveying Co., 282 U.S. 175, 185 (1930). Having considered these principles and the Graham factors, the Court finds that the change of five degrees in the reactor’s angle is a design step within the ability of a person of ordinary skill in the polymer industry. Thus, Claim 2 is determined to be obvious within the meaning of 35 U.S.C. § 103 (2006). Accordingly, the Court **GRANTS** Defendants’ Motion for Summary Judgment on the invalidity of Claim 2 of the ‘329 patent under Section 103. (Doc. 207-1, pp. 10–15.)

V. Plaintiff’s Motion for Partial Summary Judgment of Validity

Within Plaintiff’s Motion for Partial Summary Judgment of Validity, Plaintiff contends that the disclosure of other patents, processes, agreements, and publications does not render the ‘329 patent invalid because those particular items do not qualify as prior art. (See Doc. 209, pp. 6–7, 13–24.) Plaintiff asks the Court to determine whether the following qualify as prior art within the meaning of 35 U.S.C. § 102(a) or (b) (1994): the Celanese Process, (id. at pp. 13–16); the Sanyo-Celanese License Agreement, (id. at pp. 16–18); the American Cyanamid Process, (id. at pp. 18–19); and the Endian Article, (id. at pp. 21–24). (See also Doc. 209-2, pp. 5–7.)

Plaintiff also seeks a determination as to whether the '948 patent is prior art within the meaning of 35 U.S.C. § 102(e) (1994). (Doc. 209, pp. 19–21; see also doc. 209-2, p. 5.) Plaintiff contends none of these satisfy the applicable statutory prerequisites to constitute prior art. (Doc. 209, pp. 7, 24.) However, having determined that summary judgment is warranted as to whether the Sanyo SANWET® Process renders the '329 patent invalid, the Court need not examine these arguments. Accordingly, the Court **DISMISSES as moot** Plaintiff's Motion for Partial Summary Judgment.

CONCLUSION

For the reasons set forth above, the Court **GRANTS** Defendants' SNF Holding Company, Flopam Inc., Chemtall Inc., SNF SAS, and SNF (China) Flocculant Co., Ltd.'s Motion for Summary Judgment of Invalidity of U.S. Patent No. 5,633,329, (doc. 207), and **DISMISSES as moot** Plaintiff BASF Corporation's Motion for Partial Summary Judgment of Validity of the same patent, (doc. 209).⁴ The Court **ORDERS** that the Claims 1–7 of U.S. Patent No. 5,633,329 are invalid. The Court **DIRECTS** the Clerk of Court to file this Order **UNDER SEAL**, and to enter judgment in favor of Defendants and to **CLOSE** this case.

SO ORDERED, this 4th day of October, 2018.



R. STAN BAKER
UNITED STATES MAGISTRATE JUDGE
SOUTHERN DISTRICT OF GEORGIA

⁴ Accordingly, the Court also **DISMISSES as moot** all other pending motions. (Docs. 194, 203, 275, 308, 310, 312, 314.)